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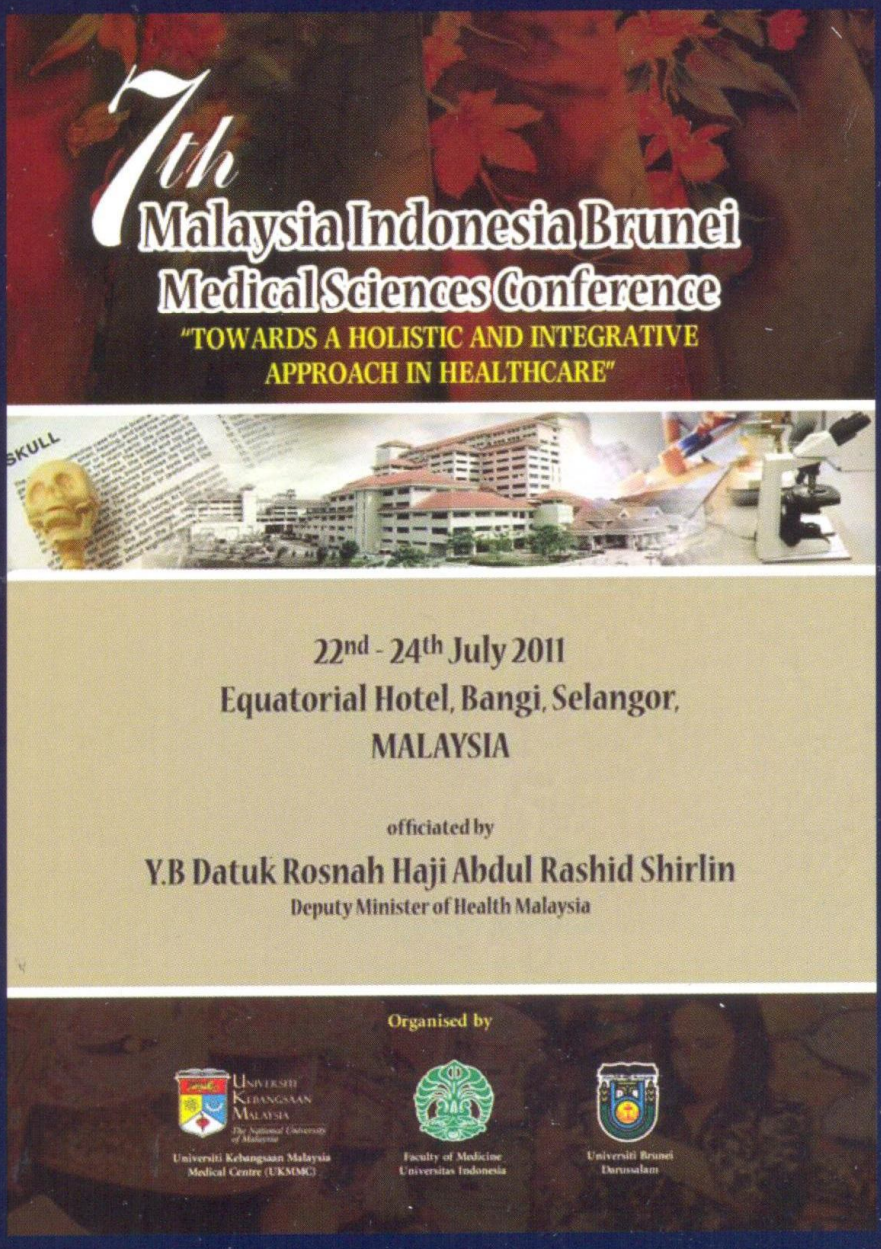

IDENTIFICATION OF THE MAJOR ALLERGEN OF *LOLIGO EDULIS* (WHITE SQUID) BY TWO-DIMENSIONAL ELECTROPHORESIS AND MASS SPECTROMETRY ANALYSIS

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Background:
IgE-mediated allergic reaction to squid is one of the most frequent molluscan shellfish allergies. Previously, we have detected a 36 kDa protein as the major allergen of *Loligo edulis* (white squid) by immunoblotting using sera from patients with squid allergy. Thus, the aim of this present study was to further identify this major allergen using the proteomics approach.

Materials and methods:
The major allergen was identified by a combination of two-dimensional electrophoresis (2-DE), immunoblotting, mass spectrometry and bioinformatics tools.

Results:
The 2-DE gel fractionated the white squid proteins to more than 50 different protein spots between 10 to 38 kDa and isoelectric point (pI) from 3.0 to 10.0. *A highly reactive* protein *spot* with a molecular mass of 36 *kDa* and a pI of 4.55 was observed in all of the serum samples tested. Matrix assisted laser desorption/ionization-time of flight (MALDI-TOF) analysis led to identification of this allergen as tropomyosin.

Conclusion:
This finding would contribute to advancement in component-based diagnosis, management of squid allergic patients to the development of immunotherapy and to the standardisation of allergenic test products as tools in molecular allergology.

Keywords:
Squid allergy, MALDI-TOF, tropomyosin